NATURAL RESOURCES CONSERVATION SERVICE

OPERATION AND MAINTENANCE GUIDE FOR YOUR COMPOSTING FACILITY

OPERATOR: _____ DATE: _____

TAX MAP KEY OF PRACTICE LOCATION: _____

NRCS OFFICE: _____ PHONE: _____

A properly operated and maintained composting structure is an asset to your farm. This composting structure is designed and installed for the composting of animal wastes. The estimated life span of this installation is at least 10 years. The life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

Here are some recommendations to help you develop a good operation and maintenance program.

OPERATION RECOMMENDATIONS

Composting is a biological process. It requires a combination of art and science for success. Hence, the operation may need to undergo some trial and error in the start-up of a new composting facility.

Operate system in a manner to minimize odors and air drift.

Carbon material such as tree trimmings will be added to the waste solids for the composting process. The carbon (C) to nitrogen (N) ratio of the compost mix should be maintained between 25:1 and 40:1 for optimum microbial activity.

The moisture content of the mix should be between 40 to 65 percent. Microbial activity will slow down below 40 percent. Moisture content greater than 65 percent will produce anaerobic conditions and will slow down decomposition.

Compost temperature should reach a minimum of 130° F to kill the pathogens, and at least 140° F to kill fly larvae and most harmful bacteria and viruses. The optimum temperature range is between 145° and 165° F. Temperature should be monitored with a 36-inch probe type thermometer.

If the temperature does not reach 140° F, try:

1. using less water,
2. using more of the bulking agent,

3. changing the bulking agent, and/or
4. using no bulking agent.

When composting, the temperature should rise then fall. When the temperature begins to drop, the compost mixture should be turned to another location. This aerates the compost material allowing it to go through another heating cycle. Repeat the procedure until the temperature does not rise.

Composting time may range from 60 to 90 days depending on the moisture content of the compost material and the carbon source used.

If the temperature exceeds 185° F, turn the compost material to expose the decomposing material to air. This will lower the temperature and help to prevent a fire from starting.

CAUTION: Do not store composted material on top of or right next to material to be used for composting. Keep the different stages of compost separated or spontaneous combustion can occur and result in fire.

- Additional operation recommendations, if applicable:

MAINTENANCE RECOMMENDATIONS

- Direct surface runoff away from compost facility.
- Additional maintenance recommendations, if applicable:

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN.

NRCS, HI
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